

## PUBLIC HEALTH REPORTS.

### UNITED STATES.

[Reports to the Surgeon-General, Public Health and Marine-Hospital Service.]

#### SIPHONAPTERA OBSERVED IN THE PLAGUE CAMPAIGN IN CALIFORNIA, WITH A NOTE UPON HOST TRANSFERENCE.

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In the campaign against rodents for the purpose of exterminating the infection of plague among these animals in this vicinity, a systematic investigation has been made of the fleas found on the various animals that have come under observation. The results of the earlier studies at the Federal Plague Laboratory have been reported by Doane (1), Wherry (2), Fox (3), Mitzmain (4), and in the annual report of the Surgeon-General of the Public Health and Marine-Hospital Service (5). The present report is based upon observations made in the 6 months ended April 30, 1909.

The well-known fact that plague may be conveyed from rodent to rodent by means of fleas and the probability that the same agent serves to convey the disease from rodent to man make the study of the prevalence of these insects and of their host affiliations of great importance. As will be seen from the following tables, the large majority of fleas are found associated with their proper hosts, but there is, as other observers have previously noted, some accidental distribution to adventitious hosts. For example, the rat fleas have been found several times upon squirrels and the squirrel fleas upon rats. As both rats and squirrels showing plague infection have been found in California, the significance of this fact is at once apparent if we assume, as we are probably justified in doing, that plague may be carried from one of these rodents to the other by means of fleas. We have shown elsewhere (6) that all of the common rat fleas and squirrel fleas of this vicinity readily feed upon man's blood and that there is no reason why any flea from a rodent may not be the means of conveying plague infection, as has been demonstrated by the Indian Plague Commission (7) to be possible in the case of *Ceratophyllus fasciatus* Bosc. and *Loemopsylla cheopis* Roth.

Fleas have been combed from rats (some alive and some dead) by the employees of the sanitary service and sent to the laboratory for identification. The results are as follows:

FROM BROWN RATS (*Mus norvegicus*).

Number of rats combed.	<i>C. fasciatus</i> .		<i>L. cheopis</i> .		<i>P. irritans</i> .		<i>C. musculi</i> .		<i>C. canis</i> .	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
606	570	1,252	790	1,146	225	425	44	137	13	15

The average number of fleas per rat was 7.6. The largest number from any one rat was 77, all *L. cheopis*, 40 males and 37 females. We have no reliable data as to the number of rats that failed to yield fleas.

FROM BLACK RATS (*Mus rattus*).

Number of rats combed.	<i>C. fasciatus</i> .		<i>L. cheopis</i> .		<i>P. irritans</i> .		<i>C. musculi</i> .		<i>C. canis</i> .	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
11	7	32	6	5	0	0	4	17	0	2

Average per rat, 7.3, the largest number from any one rat being 14. In addition, from an unknown number of *M. rattus* we have taken:

<i>C. fasciatus</i> .		<i>L. cheopis</i> .		<i>P. irritans</i> .		<i>C. musculi</i> .		<i>C. canis</i> .	
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
10	25	2	5	0	0	15	12	0	0

We have combed 114 *M. norvegicus* during the course of experiments to determine the regional distribution of fleas on rats. These rats were combed while under the influence of an anæsthetic or immediately after death.

Number of rats combed.	<i>C. fasciatus</i> .		<i>L. cheopis</i> .		<i>P. irritans</i> .		<i>C. musculi</i> .		<i>C. canis</i> .	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
114	46	139	59	89	.....	.....	29	104	.....	.....

A total of 466 fleas; an average of 4.7 per rat.

We have found squirrel fleas on rats upon 4 occasions: 2 males, *Ceratophyllus acutus*; 3 females, *Ceratophyllus acutus*; 1 female, *Hoplopsyllus anomalus*; and 1 male, *Ceratophyllus acutus*. These squirrel fleas were taken from rats caught in the outlying parts of the city. We have found squirrel fleas upon rats that have been kept in cages in proximity to our stock squirrel cages. In addition to these, Passed Asst. Surg. A. M. Stimson reports (personal communication) having found *Argopsylla gallinacea* on *Mus norvegicus* at Los Angeles, Cal., and we found *Ceratophyllus niger* on a *Mus norvegicus* on one occasion.

## FROM RAT NESTS.

In the course of routine inspection of dwellings and stables in the carrying out of measures for plague suppression, a large number of rat nests were collected by the men employed in this work. Some of these nests were sent to the plague laboratory, where they were examined. It was found that many of them had been treated previously with a disinfecting fluid, thus destroying any life contained therein. These, for our purpose, were of no value. Two of the nests, however, had escaped the treatment, and we found 5 live young rats in one and 7 in the other. The nests, which were composed of straw and other material, were fairly well supplied with larvæ and adult fleas. Some of the young rats also harbored fleas. In one nest, 25 fleas, 10 male and 15 female, *C. fasciatus*, were found; and from the other we collected 39 specimens of the same species, 14 male and 25 female. The nest, as other writers have observed, appears to be the center of flea infestation. During the early days of this plague campaign, when plague rats were most abundant, medical officers engaged in sanitary work were impressed with the large number of rat fleas found in the nests of these rodents. Acting Asst. Surg. George M. Converse tells us that he has seen in stables rat nests which were so alive with fleas as to impart their color to the entire nest.

FROM MICE (*Mus musculus*).

From an unknown number of *Mus musculus* we have taken:

<i>C. fasciatus</i> .		<i>L. cheopis</i> .		<i>P. irritans</i> .		<i>C. musculi</i> .		<i>C. canis</i> .	
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1	5	2	0	0	0	3	10	0	0

FROM CALIFORNIA GROUND SQUIRRELS (*Citellus beecheyi*).

We have combed a large number of dead ground squirrels, from which we have obtained the following fleas:

Number of squirrels combed.	<i>Cerat acutus</i> .		<i>Hop. anomalus</i> .		<i>P. irritans</i> .	
	Male.	Female.	Male.	Female.	Male.	Female.
167	504	588	24	33	.....	2

A total of 1,151 fleas, an average of 6.8 per squirrel.

Live squirrels have been combed while under the influence of ether. From these we have obtained:

Number of squirrels combed.	<i>C. acutus</i> .		<i>Hop. anomalus</i> .	
	Male.	Female.	Male.	Female.
132	2,065	2,306	86	140

A total of 4,597 fleas, with an average of 34 from each squirrel. The largest number from any one squirrel was 376, all of which were *C. acutus*, 213 males and 163 females. We would call attention to the fact that the average number of fleas from a squirrel is much larger than the average number from the rat or any other host which we have observed. In addition to these squirrel fleas we have taken from the live squirrels mentioned:

<i>C. fasciatus.</i>		<i>L. chcopis.</i>		<i>P. irritans.</i>		<i>Ct. musculi.</i>		<i>Ct. canis.</i>		<i>Odontopsyllus weymani.</i> <sup>a</sup>	
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
4	9	2	6	0	1	1	3	2	0	1	0

<sup>a</sup> This species is to be described by Passed Asst. Surg. C. Fox in an early number of the Entomological News.

These were from squirrels as they were brought to the laboratory, but the possibility of some of these fleas, which properly belong to other hosts, having got upon the squirrels in the laboratory can not be entirely excluded.

#### FROM RABBITS (*Lepus auduboni*).

(From San Francisco, Berkeley, and Los Angeles.)

Number combed.	<i>P. irritans.</i>		<i>Spilopsyllus inaequalis.</i>		<i>Hop. affinis.</i>		<i>Hop. anomalous.</i>		<i>C. dentatus.</i>	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
6	0	1	8	21	.....	9	2	4	1	0

A total of 45 fleas from 6 rabbits.

#### FROM THE WEASEL (*Putorius xanthogenys*).

Number combed.	<i>C. fasciatus.</i>		<i>C. ignotus.</i>		<i>C. Wagneri.</i>		<i>C. acutus.</i>		<i>Hop. anomalous.</i>		<i>C. telchinum.</i>	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
5	0	2	1	0	3	5	2	1	0	2	0	1

This large assortment of fleas, comprising representatives of species proper to rats, gophers, squirrels, rabbits, and field mice, in addition to the weasel flea, *C. wagneri*, is what would be expected when the predatory habits of this marauding rodent are considered.

#### FROM THE SKUNK (*Mephitis occidentalis*).

Number combed.	<i>P. irritans.</i>		<i>C. acutus.</i>	
	Male.	Female.	Male.	Female.
3	9	8	0	2



Passed Asst. Surg. Carroll Fox (8) has called attention to the fact that *P. irritans* is a constant parasite of the skunk in the vicinity of San Francisco. The skunk from which the *C. acutus* was taken was caught in a squirrel burrow.

FROM THE MOLE (*Scapanus californicus*).

Number combed.	<i>Corypsylla ornatus.</i>	
	Male.	Female.
1	2	2

FROM THE RACCOON (*Procyon psora*).

Number combed.	<i>Spilopsyllus inæqualis.</i>		<i>C. wagneri.</i>	
	Male.	Female.	Male.	Female.
1	2	2	1	0

FROM THE GOPHER (*Thomomys bottæ*).

Number combed.	<i>C. ignotus.</i>		<i>C. acutus.</i>		Total.
	Male.	Female.	Male.	Female.	
12	22	40	5	8	75

FROM THE FIELD MOUSE (*Microtus californicus*).

Number combed.	<i>C. telchinum.</i>	
	Male.	Female.
1	2	2

FROM THE BOOBY OWL (*Speotyto cunicularia hypogæa*).

Number combed.	<i>C. acutus.</i>		<i>H. anomalus.</i>	
	Male.	Female.	Male.	Female.
1	1	.....	.....	1

This owl was trapped in a ground-squirrel burrow.

FROM THE DOG (*Canis familiaris*).

Number combed.	<i>C. canis.</i>		<i>P. irritans.</i>		<i>C. felis.</i>		<i>C. acutus.</i>	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
4	10	44	8	17	0	1	1	0

The *Ct. felis* was taken from a dog that yielded in addition a number of specimens of *Ct. canis*. We agree with Rothschild (9) that *Ct. felis* is quite distinct from *Ct. canis*. We have, however, found both species on the dog.

FROM THE CAT (*Felis domestica*).

Number combed.	<i>Ctenocephalus felis</i> .	
	Male.	Female.
2	5	15

FROM MAN (*Homo sapiens*).

Number of individuals.	<i>P. irritans</i> .		<i>Ct. felis</i> .		<i>Ct. canis</i> .		<i>C. acutus</i> .	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
29	117	220	1	0	1	0	1	2

The squirrel fleas (*C. acutus*) have been taken on members of the laboratory staff who, in the course of their duties, have been brought into rather close association with squirrels. In each case the flea was taken while actually in the act of biting. We have shown elsewhere (6) that squirrel fleas readily bite man under experimental conditions.

## TRANSFERENCE TO NEW HOST.

We have called attention above to the fact that plague exists among the ground squirrels of California. There is good reason for suspecting that this infection among the ground squirrels originated from plague among rats, and as it has been demonstrated that rat plague is propagated most frequently through the medium of fleas, the suspicion naturally arises that the infection among the squirrels may have been derived from the rat through the medium of the flea. We deemed it desirable therefore to attempt to determine in an experimental way whether fleas from one of these rodents would attack the other rodent and whether the 2 rodents would live together in captivity.

The presence of squirrel fleas on rats in nature has been recorded by Doane (1) and by Fox (8), and as stated above we have observed the same thing in a number of instances, and have, on several occasions, found rat fleas on squirrels taken in nature.

These experiments were conducted in 2 ways. First, fleas were taken from one of the hosts and placed in a mouse jar, or in an animal cage with the other host, and after a varying period of time, the new host was chloroformed and the fleas were carefully collected, identified, and enumerated. It is obvious that this method hardly simulates the conditions in nature. The second procedure was to liberate a rat in a cage with a number of squirrels, or, which accomplished the same purpose, to confine the rat in a cage trap which was placed in a large box cage containing squirrels. This method somewhat more closely simulates the condition under which the animals might be associated in nature.

We might here call attention to the fact that when rats and squirrels are placed in the same cage they live together in perfect harmony. We have never had either a black or a brown rat killed when placed in a cage with squirrels.

TRANSFERENCE FROM RATS TO SQUIRRELS.

Original host.	Fleas, species and number.	Length of time on new host.	Fleas recovered, species and sex.
<i>M. norvegicus</i> .....	<i>L. cheopis</i> , 30 specimens.	<i>C. beecheyi</i> , 6 days.....	<i>L. cheopis</i> , 1 female.
Do.....	<i>C. fasciatus</i> , 25 specimens	<i>C. beecheyi</i> , 7 days.....	<i>C. fasciatus</i> , 1 male and 10 females.
Do.....	<i>L. cheopis</i> , 135 specimens.	<i>C. beecheyi</i> , 3 days.....	<i>L. cheopis</i> , 2 males and 7 females.

TRANSFERENCE FROM SQUIRRELS TO RATS.

Original host.	Fleas, species and number.	Length of time on new host.	Fleas recovered, species and sex.
<i>C. beecheyi</i> .....	<i>C. acutus</i> , 44 specimens..	<i>M. norvegicus</i> , 10 hours..	<i>C. acutus</i> , 1 male and 2 females.
Do.....	<i>C. acutus</i> , 42 specimens; <i>H. anomalus</i> , 9 specimens.	<i>M. norvegicus</i> , 3 days....	<i>C. acutus</i> , 4 males and 1 female; <i>H. anomalus</i> , 2 males.

RATS PLACED IN CAGE WITH SQUIRRELS.

Original host.	New host.	Time of exposure.	Fleas recovered from new host.
<i>C. beecheyi</i> .....	<i>M. rattus</i> .....	14 days....	<i>C. acutus</i> , 1 male and 1 female.
Do.....	<i>M. norvegicus</i> (2).....	1 day.....	<i>C. acutus</i> , 2 males and 6 females.
Do.....	<i>M. norvegicus</i> (2).....	10 days....	<i>C. acutus</i> , 22 males and 10 females.
Do.....	<i>M. norvegicus</i> .....	17 hours....	<i>C. acutus</i> , 1 female.
Do.....	<i>M. norvegicus</i> .....	4 hours....	<i>C. acutus</i> , 1 male and 1 female.
Do.....	<i>M. norvegicus</i> (2).....	5 hours....	<i>C. acutus</i> , 4 females.
Do.....	<i>M. norvegicus</i> (6).....	2 days.....	<i>C. acutus</i> , 9 males and 7 females.
Do.....	<i>M. norvegicus</i> (4).....	4 days.....	<i>C. acutus</i> , 10 males and 15 females.
Do.....	<i>M. norvegicus</i> (3).....	1 week.....	<i>C. acutus</i> , 87 males and 114 females.

These experiments indicate that fleas from rodents will adapt themselves to a host of a different species. They also demonstrate that fleas from squirrels will attack rats even in the presence of the normal host.

LIST OF SPECIES MENTIONED IN THIS PAPER.

*Argopsylla gallinacea* (Westwood) Enderlein.  
*Ceratophyllus acutus* Baker.  
*Ceratophyllus dentatus* Baker.  
*Ceratophyllus fasciatus* Bosc.  
*Ceratophyllus ignotus* Baker.  
*Ceratophyllus niger* Fox.  
*Ceratophyllus telchinum* Roth.  
*Ceratophyllus wagneri* Baker.  
*Corypsylla ornatus* Fox.  
*Ctenocephalus canis* (Curtis) Baker.  
*Ctenocephalus felis* Bouche.  
*Ctenopsyllus musculi* (Duges) Wagner.  
*Hoplopsyllus affinis* Baker.  
*Hoplopsyllus anomalus* Baker.  
*Loemopsylla cheopis* Roth.

*Odontopsyllus wymani* Fox. (To appear shortly in Entomological News.)

*Pulex irritans* Linn.

*Spilopsyllus inæqualis* Baker.

Total number of fleas identified, 12,347.

#### REFERENCES.

- (1) 1908. Doane, Canadian Entomologist, Aug., 1908, p. 303. A Note on Fleas Collected on Rat and Human Hosts in San Francisco and Elsewhere.
- (2) 1908. Wherry, Journal of American Medical Association, Vol. LI, No. 6. Fleas on Rodents and Men on the Pacific Coast.
- (3) 1908. Fox, Public Health Reports, Vol. XXIII, No. 39, p. 1371. Washington, D. C. Identification of Fleas at San Francisco, California.
- (4a) 1907. Mitzmain, Bulletin of the California State Board of Health, Vol. III, No. 5, p. 35. Preliminary note on the Siphonaptera Found on Rats.
- (4b) 1908. Entomological News, October, 1908, pp. 380-382. Synopsis and Bibliography of California Siphonaptera.
- (4c) Ibid., pp. 353-359. Insect Transmission of Bubonic Plague; A Study of the San Francisco Epidemic.
- (4d) 1909. Canadian Entomologist, May, 1909. List of the Siphonaptera of California.
- (5) 1908. Annual Report, Surgeon-General U. S. Public Health and Marine-Hospital Service.
- (6) 1909. McCoy and Mitzmain, Public Health Reports, Vol. XXIV, No. 8, Washington, D. C. Experimental Investigation of Biting of Man by Fleas from Rats and Squirrels.
- (7) 1906. Journal of Hygiene, Extra Plague Number, Vol. VI, No. 4. Ibid., 1907, Vol. VII, No. 3; Ibid., No. 6; Ibid., 1908, Vol. VIII, No. 2.
- (8) 1909. Fox, Entomological News, Jan., 1909, p. 10. A Report on the Species of the Siphonaptera Found Within the Boundaries of the City and County of San Francisco.
- (9) 1901. Rothschild, Entomologist's Record, Vol. XIII, No. 4, p. 126. Notes on *Pulex canis*, Curtis, and *Pulex felis*, Bouche.

*Reports from San Francisco, Cal.—Plague-prevention work at San Francisco, Oakland, and Point Richmond, and in Alameda and Contra Costa counties, Cal.—Plague squirrels found in Contra Costa County.*

#### Surgeon Blue reports:

##### SAN FRANCISCO, CAL.

Date of last case of human plague: Sickened, January 30, 1908.

Date of last case of rodent plague: October 23, 1908.

Week ended June 5, 1909.

Sick inspected.....	4
Plague.....	0
Dead inspected.....	106
Plague.....	0
Necropsies held.....	1
Premises inspected.....	1,779
Houses disinfected.....	72
Buildings condemned.....	11
Nuisances abated.....	243
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Rats found dead.....	51
Rats trapped.....	2,441
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Total rats taken.....	2,492
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## Rats identified:

Mus norvegicus.....	1,799
Mus rattus.....	22
Mus musculus.....	570
Mus alexandrinus.....	81

Total.....	2,472
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## Rats identified as to sex:

Male.....	883
Female.....	930

Total.....	1,813
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Rats examined bacteriologically.....	1,399
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Plague rats.....	0
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Poisons placed.....	12,864
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## OAKLAND, CAL.

Date of last case of human plague: Sickened July 17, 1908.

Date of last case of rodent plague: Trapped December 1, 1908.

*Week ended June 26, 1909.*

Dead inspected.....	39
Plague.....	0
Premises inspected.....	690
Premises reinspected.....	397
Premises cleaned.....	109
Necropsies held.....	5
Garbage cans installed.....	20
Nuisances abated.....	132
Rats found dead.....	25
Rats trapped.....	827
Rats identified.....	888
Mus norvegicus.....	847
Mus rattus.....	1
Mus musculus.....	36
Mus alexandrinus.....	4
Rats examined bacteriologically.....	888
Plague rats.....	0

## POINT RICHMOND, CAL.

*Week ended June 26.*

Premises inspected.....	300
Nuisances abated.....	18
Rats found dead.....	14
Rats trapped.....	6
Rats examined bacteriologically.....	7
Plague rats.....	0
Poisons placed.....	4,200

## ALAMEDA COUNTY, CAL.

*Week ended June 26.*

Dead inspected.....	70
Plague.....	0
Necropsies held.....	7

## CONTRA COSTA COUNTY, CAL.

Date of last case of human plague: Sickened July 21, 1908.

Date of last case of rodent plague: Found June 18, 1909.

*Week ended June 26.*

Ground squirrels shot.....	1,301
Ground squirrels found.....	43
Ground squirrels trapped.....	10
Ground squirrels examined bacteriologically.....	1,071
Ground squirrels infected with <i>B. pestis</i> .....	18
Ranches inspected.....	138
Acres covered with poison.....	108
Poisons placed.....	1,490

Plague-infected ground squirrels obtained from the following places:

*June 17.*

Stewartsville.....	1
West Hartley.....	2

*June 18.*

Stewartsville.....	2
West Hartley.....	2
Mount Diablo tract.....	1
Keller's ranch (near Clayton).....	2

*June 20.*

Keller's ranch (near Clayton).....	2
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*June 22.*

Mount Diablo tract.....	1
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*June 23.*

Keller's ranch (near Clayton).....	3
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*June 25.*

Nortonville road.....	1
Bailey's ranch.....	1

*Reports from Seattle, Wash.—Plague-prevention work.*

Passed Assistant Surgeon Glover reports, June 7:

## SEATTLE, WASH.

Date of finding of last plague rat, September 26, 1908.

*Week ended June 5, 1909.*

Rats received.....	663
Rats necropsied.....	590
Plague rats found.....	0
Plague-infected rats to date.....	21

*Week ended June 26.*

Rats received.....	1,000
Rats necropsied.....	745
Plague rats found.....	0
Plague-infected rats to date.....	21

*Report from Tampa Bay, Fla.—Beriberi on steamship Singapore from Para, Brazil.*

Passed Assistant Surgeon Robertson reports, July 6:

The British steamship *Singapore* arrived at Tampa Bay quarantine July 5 from Para, Brazil, with 3 cases of beriberi. The vessel carries a Lascar crew of 48, all of whom were shipped in Bombay in November last. From Bombay the *Singapore* went to Australia, thence with cargo to Hull, England. The 3 men were taken sick soon after reaching England, in January.



## STATISTICAL REPORTS OF MORBIDITY AND MORTALITY, STATES AND CITIES OF THE UNITED STATES—UNTABULATED.

CONNECTICUT.—Five months ended May 31, 1909. Report covers an area with an estimated population of 1,032,910. Total number of deaths, 7,047, corresponding to an annual death rate of 16.36 per 1,000 of population. Deaths from contagious diseases were: Scarlet fever 45, measles 93, diphtheria 88, whooping cough 43, enteric fever 37, and 668 from pulmonary tuberculosis. Cases: Measles 4,487, scarlet fever 848, diphtheria 789, whooping cough 596, enteric fever 206, pulmonary tuberculosis 652, and smallpox 1.

INDIANA—*Jeffersonville*.—Month of June, 1909. Estimated population, 12,000. Total number of deaths, 14, including enteric fever 6, and 2 from tuberculosis. Cases: Tuberculosis 2, enteric fever 1, and scarlet fever 2.

IOWA—*Cedar Rapids*.—Month of June, 1909. Estimated population, 35,000. Total number of deaths, 29, including diphtheria 2, and 2 from tuberculosis. Cases: Scarlet fever 2, and diphtheria 4.

MARYLAND.—Month of April, 1909. Total number of deaths, 915, including tuberculosis 109, enteric fever 10, measles 14, whooping cough 5, scarlet fever 5, and 8 from diphtheria. Cases: Enteric fever 25, scarlet fever 27, whooping cough 2, measles 332, diphtheria 43, and smallpox 8.

MASSACHUSETTS.—Reports from the state board of health for the five weeks ended May 29, 1909. Fifty-three cities and towns reporting, having an aggregate estimated population of 2,366,746, report 3,565 deaths, including diphtheria 36, enteric fever 14, measles 29, and 354 from phthisis pulmonalis. Cases: Diphtheria 567, enteric fever 139, measles 2,437, scarlet fever 725, whooping cough 172, smallpox 1, and phthisis pulmonalis 903.

Lawrence.—Month of April, 1909. Estimated population, 78,000. Total number of deaths, 125, corresponding to an annual death rate of 19.23 per 1,000 of population, including diphtheria 2, measles 1, tuberculosis 10, and 2 from enteric fever. Cases: Diphtheria 6, scarlet fever 3, measles 129, enteric fever 8, and tuberculosis 16.

NEW JERSEY.—Reports to the state board of health for the month of June, 1909, show a total of 2,937 deaths, including diphtheria 38, enteric fever 16, measles 23, scarlet fever 36, whooping cough 29, and 406 from tuberculosis.

NEW YORK—*Saratoga Springs*.—Month of June, 1909. Estimated population, 11,822. Total number of deaths, 24, including 1 from tuberculosis. Cases: Diphtheria 2, and tuberculosis 2.

NORTH CAROLINA—*Charlotte*.—Month of June, 1909. Estimated population, 40,000. Total number of deaths, 46, including measles 1, enteric fever 3, and 4 from tuberculosis. Cases of contagious diseases reported: Measles 6, and enteric fever 18.

**OKLAHOMA**—*Oklahoma City*.—Period from March 13 to June 26, 1909. Estimated population, 50,000. Total number of deaths, 227, including scarlet fever 6, enteric fever 8, and 12 from tuberculosis. Cases: Scarlet fever 65, enteric fever 1, smallpox 49, diphtheria 17, and tuberculosis 1.

**PENNSYLVANIA**—*Altoona*.—Month of June, 1909. Estimated population 60,000. Total number of deaths, 39, including 5 from tuberculosis. Cases: Diphtheria 2, scarlet fever 11, and enteric fever 2.

*South Bethlehem*.—Month of June, 1909. Estimated population, 15,000. Total number of deaths, 22, including 1 from measles. Cases: Scarlet fever 2, whooping cough 1, measles 80, and tuberculosis 3.

**RHODE ISLAND**—*Bristol*.—Two months ended June 26, 1909. Estimated population, 7,500. Total number of deaths 15, including 1 from tuberculosis. Cases: Scarlet fever 3, and measles 1.

**WASHINGTON**—*Tacoma*.—Four months ended May 31, 1909. Estimated population, 120,000. Total number of deaths, 272, corresponding to an annual death rate of 6.78 per 1,000 of population, including scarlet fever 7, tuberculosis 34, enteric fever 2, measles 1, and 3 from diphtheria. Cases: Enteric fever 14, tuberculosis 6, scarlet fever 85, smallpox 37, measles 28, and diphtheria 33.

*Smallpox in the United States as reported to the Surgeon-General, Public Health and Marine-Hospital Service, June 26 to July 16, 1909.*

[For reports received from December 25, 1908, to June 25, 1909, see PUBLIC HEALTH REPORTS for June 25, 1909.]

[NOTE.—In accordance with custom, the tables of epidemic diseases are terminated semiannually and new tables begun.]

Place.	Date.	Cases.	Deaths.	Remarks.
<b>California:</b>				
Hobart Mills.....	Apr. 1-30.....	1	.....	
Sacramento.....	June 6-12.....	1	.....	
San Francisco.....	June 6-12.....	1	.....	
Truckee.....	Mar. 23.....	3	.....	
Total for State.....		6	.....	
<b>Connecticut:</b>				
New Haven.....	May 1-31.....	1	.....	
Total for State.....		1	.....	
<b>Georgia:</b>				
Macon.....	June 14-27.....	6	.....	
Total for State.....		6	.....	
<b>Illinois:</b>				
Alexander County—				
Cairo.....	May 1-31.....	18	.....	
Champaign County.....	Apr. 1-May 31.....	25	.....	
Christian County.....	Apr. 1-May 31.....	35	.....	
Clay County.....	Apr. 1-30.....	1	.....	
Clinton County.....	Apr. 1-May 31.....	6	.....	
Cook County—				
Chicago.....	June 20-July 3.....	4	.....	
Dewitt County.....	May 1-31.....	7	.....	
Edwards County.....	Apr. 1-May 31.....	3	.....	
Efingham County.....	Apr. 1-30.....	2	.....	
Fayette County.....	May 1-31.....	2	.....	

*Smallpox in the United States, etc.—Continued.*

Place.	Date.	Cases.	Deaths.	Remarks.
<b>Illinois—Continued.</b>				
Franklin County.....	Apr. 1-May 31.....	2		Present.
Fulton County.....	Apr. 1-30.....			
Gallatin County.....	Apr. 1-May 31.....	16		
Iroquois County.....	May 1-31.....	1		
Jackson County.....	Apr. 1-May 31.....	14		
Murphysboro.....	Apr. 1-May 31.....	40		
Knox County.....	Apr. 1-30.....	8		
Lake County.....	Apr. 1-May 31.....	3		
Lasalle County.....	Apr. 1-30.....	3		
McDonough County.....	Apr. 1-30.....	25		
McHenry County—				
Marengo.....	May 1-31.....	80		
Macoupin County.....	Apr. 1-May 31.....	6		
Madison County.....	May 1-31.....	1		
Marion County.....	Apr. 1-May 31.....	13		
Massac County—				
Metropolis.....	Apr. 1-May 31.....	29		
Montgomery County.....	May 1-31.....	1		
Peoria County.....	Apr. 1-May 31.....	8		
Peoria.....	June 1-30.....	26		
Perry County.....	Apr. 1-May 31.....	11		
Pulaski County.....	May 1-31.....	5		
St. Clair County.....	May 1-31.....	9		
Saline County.....	May 1-31.....	30		
Sangamon County.....	Apr. 1-30.....	1		
Springfield.....	May 29-July 9.....	3		
Schuyler County.....	May 1-31.....	1		
Shelby County.....	Apr. 1-May 31.....	2		
Stephenson County.....	May 1-31.....	4		
Tazewell County.....	May 1-31.....	5		
Pekin.....	Apr. 1-May 31.....	47		
Union County.....	Apr. 1-May 31.....	5		
Vernilion County.....	Apr. 1-May 31.....	2		
Danville.....	June 14-July 4.....	7		
Williamson County.....	Apr. 1-May 31.....	6		
Woodford County.....	Apr. 1-May 31.....	21		
Total for State.....		538		
<b>Indiana:</b>				
Fort Wayne.....	June 6-July 3.....	22		
Indianapolis.....	June 14-20.....	1		
Muncie.....	June 20-26.....	1		
South Bend.....	June 13-26.....	4		
Total for State.....		28		
<b>Kansas:</b>				
Kansas City.....	June 13-July 3....	9		
Total for State.....		9		
<b>Kentucky:</b>				
Covington.....	June 13-July 3....	5		
Lexington.....	June 20-July 3....	7		
Newport.....	June 14-20.....	1		
Paducah.....	June 13-26.....	3		
Total for State.....		16		
<b>Louisiana:</b>				
New Orleans.....	June 13-July 3....	7		
Total for State.....		7		
<b>Maryland, general.....</b>				
	Mar. 1-Apr. 30....	9		
Total for State.....		9		
<b>Massachusetts:</b>				
Lawrence.....	June 27-July 3....	1		
Total for State.....		1		
<b>Michigan:</b>				
Chippewa County.....	May 1-31.....	1		
Eaton County.....	May 1-31.....	5		
Houghton County.....	May 1-31.....	1		
Ingham County.....	May 1-31.....	1		
Jackson County.....	May 1-31.....	1		
Kent County—				
Grand Rapids.....	June 20-26.....	1		

## Smallpox in the United States, etc.—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
<b>Michigan—Continued.</b>				
Marquette County.....	May 1-31.....	4		
Muskegon County.....	May 1-31.....	5		
Oceana County.....	May 1-31.....	1		
Ottawa County.....	May 1-31.....	4		
Saginaw County.....	May 1-31.....	16		
St. Clair County.....	May 1-31.....	1		
Tuscola County.....	May 1-31.....	4		
Wayne County—				
Detroit.....	May 1-31.....	1		
Total for State.....		46		
<b>Minnesota, general.</b>				
Duluth.....	Mar. 1-31.....		2	
Minneapolis.....	June 19-July 9....	7		
	May 1-31.....	20		
Total for State.....		27	2	
<b>Missouri:</b>				
Kansas City.....	June 13-26.....	2		
St. Joseph.....	May 30-June 19....	4		
St. Louis.....	June 20-26.....	2		
Total for State.....		8		
<b>Montana:</b>				
Dawson County.....	May 1-31.....	5		
Deer Lodge County.....	May 1-31.....	1		
Flathead County.....	May 1-31.....	4		
Gallatin County.....	May 1-31.....	4		
Jefferson County.....	May 1-31.....	2		
Lewis and Clark County—				
Helena.....	May 1-31.....	1		
Park County.....	May 1-31.....	6		
Livingston.....	May 1-31.....	6		
Sanders County.....	May 1-31.....	1		
Silver Bow County—				
Butte.....	June 11-July 1....	11		
Teton County.....	May 1-31.....	1		
Valley County.....	May 1-31.....	1		
Yellowstone County.....	May 1-31.....	1		
Total for State.....		44		
<b>Nebraska:</b>				
Lincoln.....	May 1-31.....	14		
Total for State.....		14		
<b>New York, general.</b>				
	May 1-31.....	408		Including Fulton, Greene, Montgomery, Oneida, Onondaga, and Ulster counties.
Total for State.....		408		
<b>North Carolina:</b>				
Bladen County.....	Apr. 1-30.....	5		
Buncombe County.....	Apr. 1-30.....	1		
Caldwell County.....	Apr. 1-30.....	16		
Camden County.....	Apr. 1-30.....	15		
Carteret County.....	Apr. 1-30.....	1		
Craven County.....	Apr. 1-30.....	6		
Duplin County.....	Apr. 1-30.....	6		
Johnston County.....	Apr. 1-30.....	2		
Lee County.....	Apr. 1-30.....	6		
Mitchell County.....	Apr. 1-30.....			Present.
Onslow County.....	Apr. 1-30.....	2		
Pasquotank County.....	Apr. 1-30.....	14		
Pitt County.....	Apr. 1-30.....	2		
Sampson County.....	Apr. 1-30.....	5		
Wake County.....	Apr. 1-30.....	2		
Wilson County.....	Apr. 1-30.....	1		
Yancey County.....	Apr. 1-30.....	3		
Total for State.....		87		
<b>Ohio:</b>				
Cincinnati.....	June 12-July 2....	4		
Total for State.....		4		

*Smallpox in the United States, etc.—Continued.*

Place.	Date.	Cases.	Deaths.	Remarks.
Oregon:				
Portland.....	Apr. 1-30.....	6	.....	
Total for State.....		6	.....	
Oklahoma:				
Oklahoma.....	Apr. 3-July 12.....	49	.....	
Total for State.....		49	.....	
Tennessee:				
Knoxville.....	June 20-26.....	4	.....	
Total for State.....		4	.....	
Texas:				
Bexar County—				
San Antonio.....	June 13-July 3....	8	.....	
Galveston County—				
Galveston.....	June 19-25.....	1	.....	
San Saba County.....	Apr. 9-May 26.....	11	.....	
Laredo County.....	June 19.....	1	.....	
Total for State.....		21	.....	
Utah:				
Box Elder County.....	May 1-31.....	3	.....	
Davis County.....	May 1-31.....	6	.....	
Garfield County.....	May 1-31.....	1	.....	
Salt Lake County.....	May 1-31.....	16	.....	
San Pete County.....	May 1-31.....	20	.....	
Summit County.....	May 1-31.....	18	.....	
Tooele County.....	May 1-31.....	5	.....	
Uintah County.....	May 1-31.....	1	.....	
Utah County.....	May 1-31.....	6	.....	
Weber County.....	May 1-31.....	3	.....	
Total for State.....		79	.....	
Virginia:				
Lynchburg.....	June 20-26.....	1	.....	
Total for State.....		1	.....	
Washington:				
Spokane.....	June 6-July 3....	7	.....	
Tacoma.....	May 14-June 27....	6	.....	
Total for State.....		13	.....	
Wisconsin:				
Appleton.....	June 20-26.....	1	.....	
La Crosse.....	June 13-19.....	1	.....	
Milwaukee.....	June 21-27.....	2	.....	
Total for State.....		4	.....	
Grand total for the United States.....		1,436	2	

## Weekly morbidity and mortality table, cities of the United States.

[For smallpox, see special table.]

Cities.	Week ended—	Population, United States census, 1900.	Total deaths from all causes.	Tuberculosis.		Enteric fever.		Scarlet fever.		Diphtheria.		Measles.		Whooping cough.	
				Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Altoona, Pa.	July 3	38,973	10	1	1	1		1		1					
Ann Arbor, Mich.	do.	14,509	2	2				1							
Appleton, Wis.	June 26	15,085	1	1	1							9			
Do.	July 3	15,085	1	1											
Ashtabula, Ohio.	do.	12,949	7												
Auburn, N. Y.	June 12	30,345	1	1											
Do.	June 19	30,345	16	2	1										
Do.	June 26	30,345	13	1				1							
Do.	July 3	30,345	5	1	2							1		4	
Baltimore, Md.	do.	508,957	255	18	33	16	4	4		3		29		20	1
Bath, Me.	do.	10,477										23			
Bayonne, N. J.	do.	32,722		2	2			3		3		6			
Beaver Falls, Pa.	do.	13,000						1							
Biddeford, Me.	June 19	16,145	6							1					
Do.	July 3	16,145	3	1	1										
Biloxi, Miss.	do.	5,467								1					
Binghamton, N. Y.	do.	38,647	15	3				1				10			
Boston, Mass.	do.	560,892	170	69	16	6		17	1	24	3	91	1	1	
Braddock, Pa.	do.	15,654	16			1		7	1	1	1				
Bradford, Pa.	do.	15,029	3					3		1		1			
Brocton, Mass.	do.	40,063	7	3	1	2		1		2		1			1
Butler, Pa.	June 28	10,853	7												
Cambridge, Mass.	July 3	91,886	18	6	4	1		5		3		19		1	
Camden, N. J.	do.	75,935	26					1		1		1			
Camden, S. C.	do.	2,441				1									
Carbondale, Pa.	do.	13,536	4					2							
Charlotte, N. C.	July 2	18,091	8	2		8	1			1					
Chelsea, Mass.	July 3	34,072	9	2	1					1		1			
Chicago, Ill.	do.	1,698,575	491	54	66	22	2	64	4	66	8	336	5	46	3
Chicopee, Mass.	do.	19,167	6	1						1					
Cincinnati, Ohio.	July 2	325,902	117	29	17	4		3		1	1	6		2	
Cleveland, Ohio.	do.	381,768	123	40	10	3		10		6	1	72	2	9	
Clinton, Mass.	July 3	13,667	2									2			
Columbus, Ohio.	do.	125,560	63	6	5	1	1					6		2	
Council Bluffs, Iowa.	June 28	25,802	4					5							
Covington, Ky.	July 3	42,938	12		1	3									
Danville, Ill.	July 4	16,534	5												
Davenport, Iowa.	July 3	35,254	1							4	1				
Dayton, Ohio.	do.	85,333	23		3			1		1	1	22		1	
Detroit, Mich.	do.	285,704	129					13		1	1				
Duluth, Minn.	July 2	80,000	10	2		1	1	21	1	14		11			
Dunkirk, N. Y.	July 3	11,616	3	1	1	1									
Elizabeth, N. J.	May 15	52,130	28		2										
Do.	May 22	52,130	18		4		1	2		4	1	11		1	
Do.	May 29	52,130	22		1			2		4		14			
Do.	June 5	52,130	22		3		1	4		6		2			
Do.	June 12	52,130	14		3			1		3	1	2			
Do.	June 19	52,130	17		1			4		3	1	3		1	1
Do.	June 26	52,130	24					1	1	4					
El Paso, Tex.	July 6	15,905	10		1	1						3			
Elkhart, Ind.	July 3	15,184	6												
Erie, Pa.	do.	52,733	20	5		1						75	3	6	2
Everett, Mass.	do.	24,336	2	2				4				2			
Fall River, Mass.	do.	104,863	43	9	3	1		2		2				1	
Findlay, Ohio.	do.	17,613	6					1		1					
Galesburg, Ill.	do.	18,607	10							2	1				
Galveston, Tex.	July 2	37,789	9			1		2							
Glens Falls, N. Y.	June 26	13,543	3		1							5			
Do.	July 3	13,543	2									1			
Grand Rapids, Mich.	do.	87,565	23	2	2	1		17		2		11			
Greensboro, N. C.	do.	10,035	5	3		1									
Greenville, S. C.	June 26	11,860	3												
Harrison, N. J.	July 3	10,596	1												
Haverhill, Mass.	do.	37,175		3	2			1		4		8		1	1
Hyde Park, Mass.	do.	13,244	4												
Hoboken, N. J.	do.	59,364				1		1		1				1	
Indianapolis, Ind.	July 4	169,164	35	4	4	4		3		4		54			
Jersey City, N. J.	do.	206,433	94	1	10			10	1	4		5			1
Johnstown, Pa.	July 3	35,936	21		1	2		5		1		12		3	
Kansas City, Kans.	do.	51,418	40		1			1				4			
Kansas City, Mo.	do.	163,752	71		6		2	5	1	2		6			

\* Reported out of date.



Weekly morbidity and mortality table, cities of the United States—Continued.

Cities.	Week ended—	Popula- tion, United States census, 1900.	Total deaths from all causes.	Tuber- culosis.		Enteric fever.		Scarlet fever.		Diph- theria.		Measles.		Whoop- ing cough.	
				Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Kearny, N. J.	July 3	10,896	5	1	1					2				1	
Kingston, N. Y.	do.	24,535	7		2										
Knoxville, Tenn.	do.	32,637	16	1	1	1									
La Crosse, Wis.	do.	28,895	9							1					
Lafayette, Ind.	July 5	18,116	7		2										
Lancaster, Pa.	July 3	41,459	3	6		14		3		1		7		2	
Lawrence, Mass.	do.	62,559	23	2	5	1		1		5		14			
Lebanon, Pa.	do.	17,628	6		1			1				2			
Lexington, Ky.	do.	26,369	16		1	3	1	1						1	1
Los Angeles, Cal.	June 26	102,479	73	9	19	4		12	1	3		3			
Lowell, Mass.	July 3	94,969	32	5	3	3						5	1		
Lynn, Mass.	do.	68,513	16		4			2		4					
Macon, Ga.	July 4	22,746	3											2	
Manchester, N. H.	July 3	56,987	31	1	1			6		3	2	24		1	1
Manitowoc, Wis.	do.	11,786	4			1		3		1					
Marinette, Wis.	do.	16,195	4							1					
Marlboro, Mass.	June 26	13,609	3									1			
Do.	July 3	13,609	4												
Massillon, Ohio.	do.	11,944	2												
Medford, Mass.	do.	18,244	2												
Milwaukee, Wis.	June 27	285,315	85	15	8	7		50	1	8	4	65	3		
Do.	July 3	285,315	100	17	11	3		44	6	16	1	36	4		1
Mobile, Ala.	June 21	38,469	21		6	18	2			2					
Montclair, N. J.	June 26	13,962	10	1											
Do.	July 3	13,962	2	2								9			
Montgomery, Ala.	July 2	30,346	21		2						1				
Moline, Ill.	July 3	17,248	1					3							
Morristown, N. J.	June 26	13,000	5					1		2		5			
Do.	July 3	13,000	3									2			
Nanticoke, Pa. <sup>a</sup>	July 4	12,616	4									1			
Nashville, Tenn.	July 3	80,865		2	3	19	3	1							
Nebraska City, Nebr.	do.	7,200										6			
Newark, N. J.	do.	246,070	100		14	1	1	21	1	13					1
New Bedford, Mass.	do.	63,442	25	2		2		5				10			
Newburyport, Mass.	do.	14,478	9	1	1	2						1			
New Orleans, La.	do.	278,104	123	19	13	11	4	21	1	7					
Newton, Mass.	do.	33,587	7	1	1			1		1		4			
New York, N. Y.	do.	3,437,202	1,383	459	163	40	8	148	10	242	24	883	31	54	8
Niagara Falls, N. Y.	do.	19,457	6	2	1	1		1				6			
North Adams, Mass.	do.	24,200	4		1										
Northampton, Mass.	do.	18,643	7			2									
Oakland, Cal.	June 28	66,960	33	2	5	2		2		2		4		1	1
Orange, N. J.	July 3	24,141	4							1					
Paducah, Ky.	do.	19,446	8	3	1										
Palmer, Mass.	June 19	7,801	2												
Do.	June 26	7,801	9									5			
Perth Amboy, N. J.	July 3	15,473			2					1					
Philadelphia, Pa.	June 26	1,293,697	438	95	57	17	4	61	2	84	9	126	8	32	5
Pittsburg, Pa.	July 3	321,616	153	37	10	7	2	12		6		14		23	1
Pittsfield, Mass.	do.	21,766	4	2	1							1			
Plainfield, N. J.	do.	15,369	3	2				3							
Plymouth, Pa.	do.	13,649								1					
Portsmouth, N. H.	do.	10,637				1						5			
Portsmouth, Va.	June 29	17,427	17		2	2	2	6				1			
Pottstown, Pa.	July 3	13,696	8		1					1					
Providence, R. I.	do.	175,597	64	7	2			3		7	1	15	2		
Racine, Wis.	do.	29,102		1	1										
Reading, Pa.	July 5	78,961	21		2	4				4		5			
Richmond, Va.	June 26	85,050	51	8	5	14		1				1		1	
Do.	July 3	85,050	55	4	4	13	1					1		5	1
Rock Island, Ill.	do.	19,493	3							1					
St. Louis, Mo.	June 26	575,238	174	44	16	6	2	12		14	3	89	1	9	1
Salem, Mass.	do.	35,956	17	7	2	3						4			
San Antonio, Tex.	do.	53,321				3								1	
Do.	July 3	53,321				6									
San Francisco, Cal.	June 26	342,782	117	15	6	9	3	4	2	7		13		5	1
San Jose, Cal.	do.	21,500	7												
Schenectady, N. Y.	July 3	31,682	18							5	1	11			
Somerville, Mass.	do.	61,643	18	6	2			3				15			
South Bend, Ind.	do.	35,999	14	1	1	4	1	3	1	2					
South Bethlehem, Pa.	June 31	13,241	5	1								20			
Spokane, Wash.	June 26	38,848	20		3		1	10	3	2		2			

<sup>a</sup> Report covers four days.



## FOREIGN AND INSULAR.

### CURRENT QUARANTINE MEASURES.

[ From the Veröffentlichungen des Kaiserlichen Gesundheitsamtes, Berlin, June 9 and 23, 1909.]

#### CHOLERA.

*Italy.*—May 25. Quarantine measures against arrivals from Novorossysk suspended.

*Russia.*—June 9. The city of St. Petersburg declared cholera infected from May 25.

#### PLAGUE.

*British India.*—May 5. Quarantine in ports of Orissa against arrivals from Jiddah suspended.

*Egypt.*—May 28. Plague regulations against arrivals from Adelaide in force.

*Italy.*—May 25. Quarantine measures against arrivals from Taganrog suspended.

*Persia.*—May 21. Quarantine of five days against arrivals from Bahrein.

#### BARBADOS.

*Reports from Bridgetown—Inspection and fumigation of vessels—Status of yellow fever in island—Plague at Trinidad.*

Acting Assistant Surgeon Urquhart reports, June 19 and 26:

Week ended June 19. Bills of health were issued to 7 vessels having 298 members of crews and 62 passengers. Sanitary condition of vessels, crews, passengers, and cargoes good.

One new case of yellow fever was reported during the week, with no deaths. The case occurred in St. Josephs Parish, about 15 miles north of this port. The sanitary condition of the port remains good. No other quarantinable disease was reported during the week. It is officially reported from Trinidad that 2 more cases of plague occurred there during the week.

Week ended June 26. Bills of health issued to 3 vessels having 180 members of crews and 1 passenger. Of these vessels 2 were fumigated. Sanitary condition of vessels, crews, passenger, and cargo good.

No new cases of yellow fever and no deaths reported during the week. The last case reported was isolated June 9.

The sanitary condition of the port remains good, no quarantinable cases being reported for the week.

## BRAZIL.

*Reports from Rio de Janeiro—Inspection of vessels—Mortality—Plague and smallpox.*

Acting Assistant Surgeon Stewart reports, June 12:

Two weeks ended June 12. Vessels inspected and received bills of health: May 31, the British steamship *Polarstjernen*, for New Orleans and New York, with coffee, no passengers and no change in the crew personnel; June 3, the British steamship *Byron*, for New York with 14 cabin and 45 steerage passengers, and no change in the crew personnel; June 8, the British steamship *Corrigan Head*, for Tampa, in water ballast, with one consular passenger, and no change in the crew personnel; on the same date the British steamship *Lord Ormonde*, for Baltimore, with a cargo of manganese ore, and with no passengers and no change in the crew personnel; and June 10, the British steamship *Cara*, for New Orleans and New York, in coffee cargo, with no passengers and no change in the personnel of the crew.

No other vessels requiring inspection left this port during the period under report.

*Mortality in Rio de Janeiro—Plague and smallpox.*—Week ended May 30. Estimated population, 811,443. Total deaths, 245. No deaths nor cases due to yellow fever. Plague caused 1 death, with no new reported cases, and smallpox 1 death, with 9 new reported cases. At the close of the week there were in the Hospital São Sebastião 27 cases of smallpox under treatment.

Week ended June 6. Total deaths, 269. No deaths nor cases due to either yellow fever or plague. Smallpox caused 6 deaths, with 7 new reported cases. At the close of the week there were in the Hospital São Sebastião 27 cases of smallpox under treatment.

Week ended June 12. No cases nor deaths due to yellow fever or bubonic plague. There were 5 deaths from smallpox, with 6 new reported cases. At the close of the week there were in the Hospital São Sebastião 18 cases of smallpox under treatment.

## BRITISH HONDURAS.

*Report from Belize, fruit port.*

Acting Assistant Surgeon Mengis reports:

Week ended July 1. Present officially estimated population, 10,000. General sanitary condition of this port and the surrounding country during the week, very good.

Bills of health issued to the following-named vessels:

Date.	Vessel.	Destination.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.
June 25	Belize.....	Mobile.....	18	0	0
25	Harry T. Inge.....	New Orleans.....	32	12	17
29	Eastlands.....	Pensacola.....	24	0	0

## CHINA.

*Reports from Amoy—Inspection of vessels—Examination of emigrants—Leprosy, plague, and smallpox.*

Passed Assistant Surgeon Foster reports, May 31 and June 8:

Week ended May 29. One bill of health issued.

May 26, the British steamship *Loong Sang*, with 55 in the crew, 24 cabin and 42 steerage passengers, for Manila, was granted an original bill of health. One steerage passenger was rejected for favus.

Leprosy and plague present. Eight cases and 7 deaths from plague are reported from Pollam, a village 25 miles from Amoy.

Week ended June 5. No bills of health issued.

From June 1 to 5 there were 3 deaths from smallpox, and 25 deaths from plague in Amoy.

*Reports from Hongkong—Quarantine restrictions—Plague and smallpox—Examination of emigrants—Inspection of vessels.*

Temporary Acting Assistant Surgeon Gröne reports, June 2:

Weeks ended May 22 and 29. Restrictions enforced by Hongkong remain as reported April 3. Restrictions enforced against Hongkong remain as reported April 3.

*Quarantinable diseases.*—Week ended May 22. Plague, 13 cases, 11 deaths; smallpox, 5 cases, 3 deaths. Week ended May 29. Plague, 11 cases, 12 deaths; smallpox, 2 cases, 2 deaths.

*Aliens for Honolulu and Pacific coast ports.*—Week ended May 22. Examined, 515; rejected, 110. Week ended May 29. Examined, 0.

*Aliens for Philippine Islands.*—Week ended May 22. Examined, 19; rejected, 16. Week ended May 29. Examined, 10; rejected, 5.

*Inspection of vessels.*—Week ended May 22, 4; week ended May 29, 9.

*Reports from Shanghai—Inspection of vessels—Examination of emigrants—Smallpox—Plague in rats decreasing—Summary of plague in rats, December, 1908—May, 1909—Mosquito work—Examination of water supply.*

Acting Assistant Surgeon Ransom reports, May 26, and June 2 and 9:

Week ended May 22. One original and 1 supplemental bill of health issued to 2 vessels with an aggregate personnel of 811. One steamship, with 53 members of crew and 1 steerage passenger, was inspected. Manifests were viséed for 280 pieces of freight. Forty-four Asiatic members of crew were bathed and their effects, numbering 107 pieces, were disinfected by steam. There was also disinfected 1 piece of baggage belonging to a steerage passenger, and the forecabin of 1 vessel was rendered mechanically clean and painted. One emigrant for San Francisco per steamship *Manchuria* was examined and passed.

The weekly report from the municipal health department shows 1 death from smallpox among natives. A few plague rats continue to be found among those collected after death.

Reports from Hankau for the week ended May 15 show smallpox present among natives.



Reports from Tientsin for the week ended May 8 show 1 case of smallpox.

Week ended May 29. Supplemental bills of health granted to 2 steamships having an aggregate personnel of 362. One vessel with 51 members of crew and 8 steerage passengers was inspected. Manifests were viséed for 13,051 pieces of freight. Two emigrants for San Francisco per steamship *Chiyo Maru* were examined and passed. One emigrant was recommended for rejection on account of trachoma. Nineteen pieces of passengers' effects were inspected and passed, and 1 piece was disinfected with formalin.

The number of plague-infected rats found is steadily decreasing, notwithstanding the fact that the weather is now quite warm. The number of rats found dead and examined during the week ended May 30 was 368, of which only one was infected with plague. This rat was found in the northern district. An energetic campaign against mosquitoes has been inaugurated here and in the French concession.

Reports from Hankau show relapsing fever still present.

Reports from Tientsin show 1 death each from typhus fever and enteric fever.

Week ended June 5. Supplemental bills of health were granted to 4 steamships having an aggregate personnel of 259, and there were inspected 4 vessels, 232 members of crews, 4 steerage passengers, and 1 cabin passenger. The crew of 1 vessel, 41 Asiatics, was bathed and their effects were disinfected by steam.

The weekly report of the municipal health department shows 1 death from smallpox among natives.

No plague-infected rats were found in the settlement during the week, although about 708 rats were found dead and examined.

*A comparative statement of plague-infected rats found.*

	Rats examined.	Infected.	Per cent.
December.....	1,359	50	3.7
January.....	1,118	26	2.3
February.....	1,375	30	2.2
March.....	2,585	41	1.6
April.....	1,897	21	1.1
May.....	1,780	10	.6

It will be seen that there has been a consistent decrease in the proportion of plague-infected rats found in this settlement since the disease was first observed. The eastern district, where the disease first made its appearance, contributed only 3 infected rats during May, while the northern district produced 7.

The work against mosquitoes is being carried on here with as much energy as possible.

The monthly report of examination of the tap water shows an average of 50 micro-organisms per cubic centimeter. The coli group was represented to the extent of 0.5 per cent.

Reports from Hankau show smallpox and relapsing fever present among natives.



## COSTA RICA.

*Reports from Limon, fruit port.*

Acting Assistant Surgeon Goodman reports:

Week ended June 26. Estimated population, 8,000. General sanitary condition of this port and the surrounding country during the week, good.

Bills of health issued to the following-named vessels:

Date.	Vessel.	Destination.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.
June 20	Limon.....	Boston.....	44	6	0
21	Prinz Joachim.....	New York.....	131	156	9
22	Zent.....	do.....	53	6	0
23	Abangarez.....	New Orleans.....	87	9	39
24	Corinto.....	Mobile.....	22	0	0
25	Karen.....	New Orleans.....	23	0	0
26	Heredia.....	do.....	80	1	0

Week ended July 3. General sanitary condition of this port and the surrounding country during the week, good.

Bills of health issued to the following-named vessels:

Date.	Vessel.	Destination.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.
June 27	Greenbrier.....	New Orleans.....	46	0	1
27	Citta de Torino.....	Ponce.....	113	32	86
28	San Jose.....	Boston.....	45	2	0
28	Sarnia.....	New York.....	53	39	19
30	Parissima.....	New Orleans.....	87	4	43
July 1	Helen.....	Mobile.....	22	0	0
1	Belvernnon.....	do.....	20	0	0
2	Preston.....	New Orleans.....	34	0	0
2	Grib.....	Mobile.....	18	0	0
3	Oracabessa.....	New Orleans.....	46	0	0

## CUBA.

*Report from Cienfuegos—Inspection of vessels.*

Acting Assistant Surgeon Suarez reports, June 29:

Week ended June 26.

Vessels inspected.....	5
Bills of health issued.....	5
Members of crews inspected.....	149

The sanitary condition of the city and port is fair. Heavy rains have prevailed during the week. No quarantinable diseases have been reported.

*Reports from Habana—Inspection of vessels—Sanitary conditions—House and water-deposit inspection—Stegomyia calopus present.*

Passed Assistant Surgeon Amesse reports June 30 and July 3:

Week ended June 26.

Bills of health issued.....	23
Vessels inspected.....	17
Members of crews of outgoing vessels inspected.....	1,002
Passengers of outgoing vessels inspected.....	604

Sanitary conditions continue fair throughout the Republic.

The rainy season has brought mosquitoes, *Culex sollicitans* predominating. For the past 3 weeks the house-to-house inspection in Habana has uncovered 196 breeding places, 85 of which showed larvæ of *Stegomyia calopus*. In the country districts a similar increase of larval deposits is noted.

*Week ended July 3.*

Bills of health issued.....	21
Vessels inspected.....	16
Members of crews of outgoing vessels inspected.....	961
Passengers of outgoing vessels inspected.....	708
Vaccination certificates issued.....	28

The sanitary department reports for the period June 21 to June 26, inclusive, 16,623 house inspections, with 48 deposits of larvæ found, 14 of which were collections of *Stegomyia calopus*.

*Culex sollicitans* is abundant.

*Sanitary inspection of Manzanillo.*

Acting Assistant Surgeon Noiret reports, July 2, through Passed Assistant Surgeon Amesse at Habana:

*Inspection of Manzanillo.*—Population, 1,800, principally Spaniards. There is a local health officer. Water supply is taken from river. Malarial fever is plentiful among laborers. Mosquitoes are numerous throughout the year.

*Reports from Matanzas—Inspection of vessels.*

Acting Assistant Surgeon Nuñez reports, June 28 and July 5:

Week ended June 26. Bills of health issued to 6 vessels clearing for United States ports in good sanitary condition.

No quarantinable diseases were reported.

Week ended July 3. Bills of health issued to 9 vessels leaving this port for the United States in good sanitary condition.

No quarantinable diseases have been reported.

*Report from Santiago—Inspection of vessels—Leprosy.*

Acting Assistant Surgeon Wilson reports, June 30:

Week ended June 26. Bills of health issued to 5 vessels bound for the United States and its dependencies. No vessel was fumigated.

The sanitary authorities report that during the week 3,393 houses were inspected, and that larvæ were found in 35 deposits of water. Of these deposits 22 were found in one day and in one yard. They were in old paint cans that had collected rain water.

GUATEMALA.

*Reports from Puerto Barrios, fruit port—Stegomyia calopus present.*

Acting Assistant Surgeon Ames reports:

Week ended June 19. Present officially estimated population, 350. General sanitary condition of this port and the surrounding country during the week, good..

## Bills of health issued to the following-named vessels:

Date.	Vessel.	Destination.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.
June 16	Preston.....	New Orleans.....	35	18	4
18	Jose.....	New York via Republic of Panama.	27	5	0

Temperature taken of all persons on above-named vessels day of sailing.

Week ended June 26.

General sanitary condition of this port and the surrounding country during the week, good.

*Stegomyia calopus* present.

Bills of health issued to the following-named vessels:

Date.	Vessel.	Destination.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.
June 23	Belize.....	Mobile.....	18	0	0
24	H. T. Inge.....	New Orleans.....	32	17	0
25	Bonester.....	Galveston.....	41	0	0

Temperature taken of all persons on above-named vessels day of sailing. Steamship *Bonester* fumigated.

## HAWAII.

*Report from Honolulu—Examination of rats for plague infection.*

Chief Quarantine Officer Hobdy reports, June 21:

## HONOLULU.

*Week ended June 19.*

Total rats taken.....	669
Trapped.....	667
Found dead.....	0
Shot from trees.....	2
Examined bacteriologically.....	525
Plague rats.....	0
Classification of rats trapped:	
<i>Mus alexandrinus</i> .....	96
<i>Mus musculus</i> .....	281
<i>Mus norvegicus</i> .....	99
<i>Mus rattus</i> .....	191
Classification of rats shot from trees:	
<i>Mus alexandrinus</i> .....	1
<i>Mus rattus</i> .....	1
Average number of traps set daily.....	1,294
Rats from Hilo referred to this laboratory for bacteriological diagnosis.....	1
Rats from Hilo still under investigation.....	1
Rats from Hilo proved to be plague infected during week.....	0

## HONDURAS.

*Report from Ceiba, fruit port.*

Acting Assistant Surgeon Jumel reports:

Week ended June 30. Present officially estimated population, 6,800. General sanitary condition of this port and the surrounding country during the week, good.

Bills of health issued to the following-named vessels:

Date.	Vessel.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.	Pieces of baggage disinfected.
June 24	Harald.....	18	0	0	0
24	Navigator.....	21	0	0	0
26	Union.....	7	0	0	0
27	Vinland.....	16	0	0	0

Temperature of all persons on board above-named vessels taken at time of clearance.

*Report from Puerto Cortez, fruit port.*

Acting Assistant Surgeon Wailes reports as follows:

Week ended June 23. Present officially estimated population, about 2,500. General sanitary conditions of this port and the surrounding country, good.

Bills of health issued to the following-named vessels:

Date.	Vessel.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.	Pieces of baggage disinfected.
June 19	Mercator.....	17	2	0	0
19	Carib.....	0	0	0	0
23	Harry T. Inge.....	31	0	0	0

Week ended June 30. General sanitary condition of this port and the surrounding country, good.

Bills of health issued to the following-named vessels:

Date.	Vessel.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.
June 23	Utstein.....	17	4	0
24	Bluefields.....	22	8	0
30	Ellis.....	31	6	0

*Report from Tela, fruit port.*

Acting Assistant Surgeon Roe, reports:

Week ended June 26. Present officially estimated population, about 1,500. General sanitary condition of this port and the surrounding country during the week, good.

## Bills of health issued to the following-named vessels:

Date.	Vessel.	Destination.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.
June 23	Harald.....	Mobile.....	18	0	0
24	Bluefields.....	New Orleans.....	21	0	0

## ITALY.

*Report from Naples—Inspection of vessels—Examination of emigrants—Smallpox in Naples—Status of smallpox in Italy.*

Assistant Surgeon Wollenberg reports, June 21:

*Vessels inspected at Naples, week ended June 19.*

Date.	Name of vessel.	Destination.	Steerage passengers inspected and passed.	Pieces of baggage inspected and passed.	Pieces of baggage disinfected.
June 15	Cairnerag.....	Boston.....			
15	Verona.....	Philadelphia.....	805	90	780
16	Carpathia.....	New York.....			
16	Romanic.....	Boston.....	1,079	180	1,350
18	Königin Luise.....	New York.....	321	50	520
19	Duca di Genova.....	do.....	1,206	150	1,480
	Total.....		3,411	470	4,130

*Rejections recommended.*

Date.	Name of vessel.	Tra-choma.	Favus.	Suspect-ed tra-choma.	Suspect-ed favus.	Other causes.	Total.
June 15	Cairnerag.....						
15	Verona.....	17		10		7	34
16	Carpathia.....						
16	Romanic.....	24	1	17		11	53
18	Königin Luise.....	13	3	6		6	28
19	Duca di Genova.....	38	5	20	1	13	77
	Total.....	92	9	53	1	37	192

*Smallpox in Naples.*—During the week ended June 20 there were 8 cases of smallpox and 4 deaths reported at the health office of the city of Naples.

*Status of smallpox in Italy.*—Week ended June 20. Cases: Guardia Sanframondi 4, Cerreto Sannita 5, Solopaca (Benevento) 1, Rezzato (Brescia) 2, Mazzara del Vallo 1, Paceco (Trapani) 1.

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## JAPAN.

*Report from Kobe—Inspection of vessels—Examination of emigrants—Plague—Leprosy in Japan—Plague rats at Moji.*

Acting Assistant Surgeon Knight reports, June 16:

Week ended June 12. Supplemental bills of health granted to 7 steamships and 1 original bill of health granted to 1 steamship.

There were inspected 368 members of crews and 998 steerage passengers, and 83 members of crews and 541 steerage passengers were bathed and disinfected and their effects were disinfected by steam. Of the steerage passengers, 536 destined for Peru via Honolulu per steamship *Hongkong Maru*, were inspected, bathed, and disinfected, and their effects were disinfected before embarkation. The number of pieces of baggage steamed was 1,692. Manifests were viséed for 33,215 pieces of freight, amounting to 2,776 tons. One vessel was fumigated with sulphur to kill vermin, and her fore-castle was washed down with antiseptic solution.

The official returns of infectious diseases for the week show 1 case of plague, with 1 death, at Kobe.

*Leprosy in Japan.*—The latest census report of the Japanese health bureau shows that there are 102,585 cases of leprosy in Japan. The disease prevails more extensively in the following prefectures: Aichi Ken, Gifu Ken, both about 100 miles from Kobe, Ooita Ken, and Fukuoka Ken in Kuishu, about 200 miles southwest of Kobe.

*Plague rats at Moji.*—Of the rats taken at Moji between March 1 and May 24, 1909, 17 were found infected with plague. From May 24 to date no plague-infected rats have been found.

#### MEXICO.

##### *Report from Coatzacoalcas—Inspection and fumigation of vessels—Sanitary conditions.*

Acting Assistant Surgeon Thompson reports, July 1:

Week ended June 30: Vessels inspected 4; fumigated 1. No cases of quarantinable disease have been reported.

##### *Reports from Progreso—Inspection and fumigation of vessels—Mosquitoes.*

Acting Assistant Surgeon Harrison reports, June 26 and July 3:

Week ended June 25. Four vessels with 181 members of crews and 20 passengers from this port inspected and received bills of health. Of this number 1 was fumigated.

Sanitary conditions remain unchanged. There has been a noticeable increase in the number of mosquitoes.

##### *Week ended July 2.*

Vessels dispatched.....	4
Vessels fumigated.....	1
Members of crews.....	186
Passengers from this port.....	28

Sanitary conditions remained unchanged. No quarantinable diseases were reported. Rain was frequent and sufficient to supply water; mosquitoes appeared in increased number. Population (estimated) of Progreso about 5,000, and of Merida about 59,000.

##### *Report from Salina Cruz—Fumigation of vessels.*

Acting Assistant Surgeon Gochicoa reports, June 28:

Week ended June 26. One vessel fumigated.



*Report from Veracruz—Inspection and fumigation of vessels—Death of smallpox case previously reported—Sanitary conditions.*

Acting Assistant Surgeon Carter reports, June 28:

*Week ended June 27.*

Bills of health issued.....	6
Vessels inspected.....	2
Vessels fumigated.....	4
Passengers inspected.....	99
Members of crews inspected.....	253

No contagious diseases were reported for the week. The last case of smallpox ended fatally June 19.

No cases of yellow fever have been reported in the city or surrounding country since February 11. The mortality for the week ended June 26 is the lowest known for years past, being only 23. There has been no sickness on board vessels during the week.

NICARAGUA.

*Report from Bluefields, fruit port—Stegomyia calopus abundant.*

Acting Assistant Surgeon Layton reports:

Week ended June 26. Present officially estimated population, 2,500. General sanitary condition of this port and the surrounding country during the week, good. Mosquitoes abundantly present, especially *Stegomyia calopus*.

Bills of health issued to the following-named vessels:

Date.	Vessel.	Destination.	Number of crew.	Number of passengers from this port.	Number of passengers in transit.
June 20	Dictator.....	New Orleans.....	20	2	0
25	Ometepe.....	Colon.....	21	0	0

Temperatures of all on board above-mentioned steamships taken day of departure.

PERU.

*Report from Callao—Inspection and fumigation of vessels—Status of plague in Peru—Plague in Chilean ports.*

Acting Assistant Surgeon Gutierrez reports, June 21:

Week ended June 12. One steamship, with an aggregate personnel of 102 members of crew and 75 cabin and 21 steerage passengers was fumigated prior to sailing.

Week ended June 19. Three steamships with an aggregate personnel of 185 members of crew and 42 cabin and 78 steerage passengers were fumigated.

The following is the latest report of plague in Peru, received from the Director de Salubridad Publica:

Locality.	Cases May 28.	New.	Recov- ered.	Died.	Remain- ing June 10.
Department of Lima.....	8	2	5	2	3
Department of Callao.....	0	1	1	1	1
Department of Libertad.....	8	2	7	2	1
Department of Lambayeque.....	22	4	8	2	16
Department of Arequipa.....	3	2	3	2	2
Department of Cajamarca.....	3	1	1	1	3
Department of Piura.....	0	1	1	1	0

Bills of health report plague in Chile as follows: Iquique, June 2, 10 cases in the lazaretto; in the past 2 weeks, 5 cases and 3 deaths.

#### PHILIPPINE ISLANDS.

*Report from Manila—Smallpox—Status of cholera in the provinces—  
Inspection of vessels.*

Chief Quarantine Officer Heiser reports, June 1:

Week ended May 29. Five cases of smallpox with 1 death were reported for the city of Manila.

Reports of cholera in the provinces were received by the Bureau of Health as follows:

Provinces.	Cases.	Deaths.
Cebu.....	5	.....
Iloilo.....	3	3
Panpanga.....	4	2
Samar.....	2	.....
Total.....	14	5

Consular bills of health were issued at the port of Manila as follows: May 23, the British steamship *Kennebec*, with 49 in crew, en route from Hongkong to Boston and New York via Cebu, was granted a supplemental bill of health. Cargo certified and all necessary quarantine measures taken.

#### RUSSIA.

*Report from Libau—Status of cholera in St. Petersburg—Cholera  
present at other localities—Examination of emigrants.*

Acting Assistant Surgeon De Forest reports, June 25:

Week ended June 24. Cholera in St. Petersburg:

June 18, 34 cases, 10 deaths; June 19, 53 cases, 10 deaths; June 20, 43 cases, 17 deaths; June 21, 40 cases, 19 deaths; June 22, 61 cases, 17 deaths; June 23, 75 cases, 19 deaths; June 24, 73 cases, 13 deaths; total, 379 cases, 105 deaths.

June 23 there were 258 cases of cholera present in the various hospitals.

In the city of St. Petersburg from the beginning of the epidemic to June 23 there have been 10,797 cases of cholera, with 4,132 deaths.

In the government of St. Petersburg there occurred 6 cases of cholera with 1 death, June 23; June 24, 2 cases. At other localities cholera was reported as follows: Cronstadt, June 18, 2 cases; Mariechamn, June 23, 1 case, and June 24, 1 death; at Bachmatschowo (district of Rjasin), June 24, 1 case, 1 death.

The steamship *Estonia* sailed June 19 with 17 cabin passengers, 712 steerage passengers, and officers and members of crew 98, making a total on board of 827.

For the steamship *Russia*, sailing from Libau July 3, I have examined to date 172 emigrants.

#### ST. LUCIA ISLAND.

##### *Reports from Castries—Inspection of vessels—Sanitary conditions.*

Acting Assistant Surgeon Maylie reports, June 21 and 28:

Week ended June 19. Sanitary condition of port and vicinity good. No quarantinable diseases exist.

Week ended June 26. Vessels inspected, 2. Sanitary condition of port and vicinity good. No quarantinable diseases exist.

#### FOREIGN AND INSULAR STATISTICAL REPORTS OF COUNTRIES AND CITIES—UNTABULATED.

**AFRICA—Johannesburg.**—Report for the four weeks ended May 29, 1909. Estimated population, 187,397. Total number of deaths, 452, corresponding to an annual death rate of 31.6 per 1,000 of population, including enteric fever 16, scarlet fever 6, measles 1, whooping cough 1, and 44 from tuberculosis.

**ARGENTINA—Rosario de Santa Fe.**—Month of April, 1909. Estimated population, 168,214. Total number of deaths, 302, including diphtheria 4, measles 1, smallpox 1, enteric fever 25, scarlet fever 1, and 23 from tuberculosis.

**AUSTRALIA—Brisbane.**—Month of April, 1909. Estimated population, 119,428. Total number of deaths, 100, including enteric fever 2, diphtheria 1, and 6 from pulmonary tuberculosis.

**BRAZIL—Bahia.**—Month of February, 1909. Estimated population, 286,000. Total number of deaths, 397, corresponding to an annual death rate of 14.17 per 1,000 of population, including yellow fever 5, plague 4, smallpox 5, measles 1, beriberi 5, and 55 from pulmonary tuberculosis.

**Pernambuco.**—Report for the eight weeks ended May 15, 1909. Estimated population, 210,000. Total number of deaths, 1,169, corresponding to an annual death rate of 36.14 per 1,000 of population, including yellow fever 7, smallpox 26, enteric fever 2, leprosy 3, beriberi 2, measles 4, and 204 from tuberculosis.

CANADA—*Ontario—Hamilton*.—Month of June, 1909. Estimated population, 70,000. Total number of deaths, 79, corresponding to an annual death rate of 13.44 per 1,000 of population, including scarlet fever 2, diphtheria 2, measles 1, whooping cough 4, and 7 from tuberculosis.

COSTA RICA—*San Jose*.—Month of May, 1909. Estimated population, 26,682. Total number of deaths, 70, including 2 from tuberculosis.

GERMANY—*Munich*.—Month of April, 1909. Estimated population, 566,000. Total number of deaths, 968, including scarlet fever 3, diphtheria 8, measles 22, whooping cough 10, and 171 from tuberculosis.

GREAT BRITAIN—*England and Wales*.—The deaths registered in 76 great towns in England and Wales during the week ended June 19, 1909, correspond to an annual rate of 12.3 per 1,000 population, which is estimated at 16,445,281.

*London*.—One thousand and sixty deaths were registered during the week, including measles 48, scarlet fever 10, diphtheria 6, enteric fever 2, whooping cough 18, tuberculosis 112, and 5 from diarrhea. The deaths from all causes correspond to an annual rate of 11.4 per 1,000. In Greater London 1,524 deaths were registered. In the "outer ring" the deaths included 22 from measles, 3 from diphtheria, 2 from scarlet fever, and 6 from whooping cough.

*Manchester*.—Report for the four weeks ended May 29, 1909. Estimated population, 655,435. Total number of deaths, 935, corresponding to an annual death rate of 18.6 per 1,000 of population, including measles 52, whooping cough 15, diphtheria 10, scarlet fever 12, and 52 from tuberculosis.

*Ireland*.—The average annual death rate represented by the deaths registered during the week ended June 19, 1909, in the 21 principal town districts of Ireland was 14.2 per 1,000 of the population, which is estimated at 1,142,308. The lowest rate was recorded in Londonderry, viz, 6.0, and the highest in Waterford, viz, 27.3 per 1,000.

*Scotland*.—The deaths registered in 8 principal towns during the week ended June 19, 1909, correspond to an annual rate of 15.5 per 1,000 of the population, which is estimated at 1,839,038. The highest rate of mortality was recorded in Paisley, viz, 18.7, and the lowest in Perth, viz, 8.5 per 1,000. The aggregate number of deaths registered from all causes was 554, including diphtheria 4, measles 13, scarlet fever 4, enteric fever 1, and 18 from whooping cough.

INDIA—*Rangoon*.—Month of April, 1909. Estimated population, 295,803. Total number of deaths, 829, corresponding to an annual death rate of 33.6 per 1,000 of population, including Asiatic cholera 20, malaria 21, smallpox 36, enteric fever 6, measles 1, plague 99, and 32 from tuberculosis.

*Cholera, yellow fever, plague, and smallpox, from June 26 to July 16, 1909.*

[Reports received by the Surgeon-General, Public Health and Marine-Hospital Service, from American consuls, through the Department of State and from other sources.]

[For reports received from December 25, 1908, to June 25, 1909, see PUBLIC HEALTH REPORTS for June 25, 1909.]

[NOTE.—In accordance with custom, the tables of epidemic diseases are terminated semiannually and new tables begun.]

## CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Swatow.....	May 11-29.....			Present in vicinity.
India:				
Bombay.....	May 30-June 8.....		14	
Calcutta.....	May 16-29.....		117	
Madras.....	May 29-June 4.....		1	
Negapatam.....	May 8-14.....		4	
Rangoon.....	May 16-22.....		1	
Indo-China:				
Saigon.....	May 9-29.....	4	2	
Philippine Islands:				
Provinces—				
Cebu.....	May 16-29.....	15	6	Present.
Dapitan.....	May 9-15.....			
Iloilo.....	May 23-29.....	3	3	
Negros Occidental.....	May 9-22.....	18	8	
Pampanga.....	May 9-29.....	6	4	
Samar.....	May 9-29.....	14	8	
Sorsogon.....	May 9-15.....	8	2	
Russia:				
Cronstadt.....	June 18.....	2		
Mariehamn.....	June 23-24.....	1	1	
Rjasin.....	June 24.....	1	1	
St. Petersburg, government.....	June 10-23.....	17	5	
St. Petersburg.....	June 2-24.....	511	138	
Siam:				
Bangkok.....	Apr. 25-May 28.....	1		
Straits Settlements:				
Singapore.....	May 9-29.....		15	

## YELLOW FEVER.

Barbados, general.....	June 13-20.....	1		St. Joseph parish.
Brazil:				
Bahia.....	May 22-June 4.....	18	7	
Manaos.....	May 23-June 12.....		4	
Para.....	May 30-June 12.....	5	5	
Pernambuco.....	Apr. 15-30.....	3		
Ecuador:				
Guayaquil.....	May 23-June 12.....		13	
Mexico:				
Merida.....	June 5-11.....	2		

## PLAGUE.

Australia:				
Adelaide.....	Apr. 30-May 1.....	1		
Sydney.....	Apr. 18-24.....	1		
Brazil:				
Rio de Janeiro.....	May 17-30.....	1	1	
Chile:				
Antofagasta.....	May 9-30.....	13	5	May 29, 5 cases in the lazaretto.
Iquique.....	May 20-June 2.....	5	3	June 2, 10 cases in the lazaretto.
China:				
Amoy.....	June 1-5.....		25	
Canton.....	May 6-June 5.....	145	78	
Chinchew.....	May 22.....			Epidemic.
Hongkong.....	May 2-29.....	32	29	
Pollam.....	May 23-29.....	8	7	
Swatow district.....	May 16-22.....		150	May 29, still present in Touchow-fu and Yin Shan.
Ecuador:				
Guayaquil.....	May 23-June 12.....		11	
Egypt:				
Alexandria.....	May 30-June 16.....	2	1	
Port Said.....	May 29-June 24.....	3	1	

*Cholera, yellow fever, plague, smallpox, etc.—Continued.*

## PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt—Continued.				
Provinces—				
Assiout.....	May 14-June 21...	31	6	
Beherach.....	June 1-14.....	2		
Galyoobeeeyeh.....	June 2-23.....	2		
Garbieh.....	June 2-21.....	12	5	
Fayoum.....	June 3-23.....	15	6	
Menouf.....	Jan. 18-June 24...	54	6	
India:				
Bombay Presidency and Sind.	May 16-28.....	600	549	
Madras Presidency.....	May 16-28.....	75	23	
Bengal.....	May 16-28.....	277	231	
United Provinces.....	May 16-28.....	703	656	
Punjab.....	May 16-28.....	4,418	3,759	
Burma.....	May 16-28.....	77	71	
Central provinces, including Berar.	May 16-28.....	20	18	
Coorg.....				
Mysore State.....	May 16-28.....	36	28	
Hyderabad State.....				
Central India.....				
Rajputana and Ajmer-Merwara.	May 16-28.....	711	595	
Kashmir.....	May 16-28.....	3	3	
Northwest Province.....				
Grand total.....		6,920	5,933	
Indo-China:				
Saigon.....	May 9-29.....	6	6	
Japan:				
Formosa.....	May 23-June 12...	117	99	In south and central parts.
Kobe.....	May 30-June 12...	4	2	
Yokohama.....	May 25-June 17...	7	4	
Peru:				
Arequipa, department.....	May 8-June 10....	6	2	
Cajamarca, department.....	May 8-June 10....	7	3	
Callao, department.....	May 8-June 10....	4	1	
Lambayeque, department.....	May 8-June 10....	13	10	
Libertad, department.....	May 8-June 10....	6	2	
Lima, department.....	May 8-June 10....	5	3	
Siam:				
Bangkok.....	Apr. 25-May 28....	1	1	
Trinidad:				
Port of Spain.....	June 13-21.....	3		
Venezuela:				
Caracas.....	June 17.....		1	

## SMALLPOX.

<b>Algeria:</b>				
Algiers.....	May 1-31.....		7	
<b>Argentina:</b>				
Buenos Aires.....	Mar. 1-31.....		4	
Rosario.....	Apr. 1-30.....	1	1	
<b>Austria:</b>				
Galicia.....	June 6-12.....	2		
<b>Brazil:</b>				
Bahia.....	May 22-June 4....	4	1	
Pernambuco.....	Apr. 1-May 15....		20	
Rio de Janeiro.....	May 17-June 12...	40	13	
Santos.....	May 10-16.....		1	
Sao Paulo.....	May 10-16.....		1	
<b>Canada:</b>				
Nova Scotia—				
Halifax.....	June 13-July 3....	3		
Quebec—				
Montreal.....	June 17.....			2 cases additional at Grosse Isle on s. s. Virginian.
<b>Ceylon:</b>				
Colombo.....	May 23-29.....	2		
<b>Chile:</b>				
Santiago.....	May 29.....			Still present.
<b>China:</b>				
Amoy.....	June 1-5.....	5	3	May 9-15, present.
Hankau.....	Apr. 25-May 15....			Present.
Hongkong.....	May 2-29.....	13	10	
Shanghai.....	May 10-June 6....		2	Among natives.



*Cholera, yellow fever, plague, and smallpox, etc.—Continued.*

## SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt:				
Cairo.....	May 21-June 10...	7	10	
Suez.....	May 21-June 17...	42	3	
France:				
Paris.....	May 23-June 12...	23	2	
Germany, general.....	May 30-June 19...	15		
Great Britain:				
Liverpool.....	June 21-26.....	2		From s. s. Canada.
India:				
Bombay.....	May 26-June 8.....		25	
Calcutta.....	May 16-29.....		64	
Madras.....	May 22-June 4.....		4	
Rangoon.....	May 12-29.....		6	
Indo-China:				
Saigon.....	May 9-29.....	7	4	
Italy, general.....	May 31-June 20...	43		
Genoa.....	June 1-15.....	2		
Naples.....	May 31-June 20...	40	8	
Rome.....	Mar. 7-13.....	1	1	
Japan:				
Mojil.....	June 6.....	1		From s. s. Selja.
Osaka.....	Jan. 1-May 31...	3		
Yokohama.....	June 1-7.....	1		
Java:				
Batavia.....	May 6-29.....	6		
Mexico:				
Aguascalientes.....	June 21-27.....		1	
Guadalajara.....	June 11-26.....	2	1	
Mexico.....	May 16-22.....		17	
Monterey.....	June 14-July 4...		17	
Veracruz.....	June 1-19.....	2	2	
Philippine Islands:				
Manila.....	May 9-29.....	14	3	
Portugal:				
Lisbon.....	May 30-June 19...	14		
Russia:				
Libau.....	May 6-13.....	1		
Moscow.....	May 16-June 12...	126	37	
Odessa.....	May 30-June 19...	11		
Riga.....	June 6-19.....		16	
St. Petersburg.....	May 16-June 12...	69	18	
Warsaw.....	Apr. 25-May 8.....		6	
Siam:				
Bangkok.....	Apr. 25-May 28...	1	1	
Siberia:				
Vladivostok.....	May 15-21.....	1		
Spain:				
Barcelona.....	June 1-28.....		16	
Huelva.....	May 1-31.....		1	
Madrid.....	May 1-31.....		73	
Seville.....	May 1-31.....		1	
Valencia.....	May 30-June 19...	22	1	
Vigo.....	May 23-June 19...		4	
Switzerland:				
Geneva, Canton.....	May 30-June 12...	8		
Tripoli:				
Tripoli.....	May 23-June 19...	33	10	
Turkey in Asia:				
Bassorah.....	May 23-29.....			Present.
Smyrna.....	May 7-13.....	2		
Turkey in Europe:				
Constantinople.....	May 31-June 13...		5	
Uruguay:				
Montevideo.....	Apr. 1-30.....		3	



Weekly mortality table, foreign and insular cities—Continued.

Cities.	Week ended—	Estimated population.	Total deaths from all causes.	Deaths from—										
				Tuberculosis.	Plague.	Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Hamburg.....	June 19	872,252	224	30								4	6	
Hamilton.....	June 28	20,206	5											
Hull.....	June 19	275,552	76											1
Königsberg.....	June 12	239,100	79	7								1		2
Leeds.....	June 19	484,012	102	6									3	
Leipzig.....	June 12	537,086	123	16								1	2	1
Leith.....	June 19	85,721	18											
Liege <sup>a</sup> .....	Mar. 20	176,166		9										
Do.....	Apr. 10	176,166	50	5						1			1	
Do.....	June 12	176,166	44	7										
Do.....	June 19	176,166	52	5										1
Liverpool.....	do.....	760,357	243	20						1	9	5	18	3
London.....	do.....	4,833,938	1,060	112						2	10	6	48	18
Lyon.....	June 12	472,114	150	31						1	1	2		1
Do.....	June 19	472,114	130	34						1				
Madras.....	June 4	509,346	465			1		3					6	
Magdeburg.....	June 12	250,150	68	7						1		4		
Managua.....	May 29	22,278	12											
Do.....	June 5	22,278	13											
Manaos.....	June 12	52,000	26	4			2							
Manchester.....	June 19	631,533	174	10								4	3	14
Matamoros.....	June 26	8,000	6											3
Mannheim.....	June 6	182,455	48	5						2	1		4	1
Mexico.....	May 22	400,000	483	30				17	25		11	3	5	2
Monrovia.....	May 8	7,000	3											
Do.....	May 15	7,000	2											
Do.....	May 22	7,000	5											
Do.....	May 29	7,000	4											1
Monterey.....	June 20	100,000	101	4				6	3					
Do.....	June 27	100,000	103	11				4		1			1	
Montreal.....	June 26	378,856	138	16						1	2			
Moscow.....	June 12	1,335,104	756	79				7	6	1	21	14	44	10
Nagasaki.....	May 30	175,936	40											
Do.....	June 6	175,936	38											
Naples.....	June 12	593,729	283					4				1		
Do.....	June 19	593,729	273					4				1	1	
Newcastle-on-Tyne.....	do.....	281,584	81								2		2	
Nottingham.....	June 12	260,000	67									1	1	1
Nuevo Laredo.....	June 26	8,000	4	1										
Nuremberg.....	June 5	316,180	104	26							2		2	1
Odessa.....	do.....	467,000	176	24					1		3		1	1
Do.....	June 19	467,000	203	18						1		1		4
Para.....	do.....	185,000	71	7										
Paris.....	do.....	2,776,394	802	182						4	9	2	17	7
Penang.....	May 22	102,520	21	17										
Plymouth.....	June 19	124,180	30											1
Port Elizabeth.....	May 29	32,959	15	1							1			
Do.....	June 5	32,959	11	3										
Prague.....	June 12	229,965	131	34								5	3	6
Queenstown.....	June 19	7,684	3											1
Rangoon.....	May 29	252,155	136	4	13			2						
Rome.....	Mar. 6	559,715	393	21						1	3	8	12	4
Do.....	Mar. 13	559,715	330	18				1		1	1		5	3
Do.....	Mar. 20	559,715	271	33									11	2
Rotterdam.....	June 26	414,009	107							1				
Saigon.....	May 15	206,000						3						
Do.....	May 22	206,000				2								
St. John, N. B.....	June 26	40,711	8	2										
St. Petersburg.....	June 5	1,678,000	853	125										
San Felipe de Guixols.....	June 19	11,094	2	1			12		1	2	11	18	16	9
Santiago de Cuba.....	do.....	53,614	26	4									1	
Do.....	June 26	53,614	18	3										
Schiedam.....	June 27	31,620	10	2										
Shanghai.....	May 22	565,000	113	14				1						
Do.....	May 29	565,000	109	14										
Southampton.....	June 19	124,667	23	2						1				1
South Shields.....	do.....	117,627	21	3										
Stettin.....	do.....	230,000	69	10										
Stockholm.....	June 5	339,582	120	20							3	1		2
Do.....	June 12	339,582	104	29							2	1		2

<sup>a</sup> Reported out of date.

Weekly mortality table, foreign and insular cities—Continued.

Cities.	Week ended—	Estimated population.	Total deaths from all causes.	Deaths from—									
				Tuberculosis.	Plague.	Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.
Suez.....	May 27	19,786	17										
Do.....	June 3	19,786	21					1					
Do.....	June 10	19,786	18					1					
Do.....	June 17	19,786	25					1					
Sunderland.....	June 19	159,137	52	5								1	1
Tegucigalpa.....	June 15	24,000	7										
Trieste.....	June 5	217,706	84							2			4
Turin.....	June 18	381,439	130										
Valencia.....	June 5	240,000	82	7								3	
Do.....	June 12	240,000	9									1	
Do.....	June 19	240,000	101	7				1		1	1	1	2
Veracruz.....	June 5	32,000	29	8									
Do.....	June 12	32,000	23	6									
Do.....	June 19	32,000	24	4				1					
Victoria, B. C.....	June 26	30,000	7	1							1		
Vienna.....	June 5	2,064,037	734	119							16	4	19
Do.....	June 12	2,064,037	667	130							10	4	26
Vigo.....	June 5	40,000	18	2				2					
Do.....	June 19	40,000	14	3				2					
Vladivostok.....	May 21	82,494	17	1									
Warsaw.....	May 1	751,595	279	51				3	2		5	2	1
Do.....	May 8	751,595	237	59				3	2	3	2	2	3
West Hartlepool.....	June 19	66,750	12										
Winnipeg.....	June 26	122,000	18	1								1	

By authority of the Secretary of the Treasury:

WALTER WYMAN,

Surgeon-General,

United States Public Health and Marine-Hospital Service.